

ASOS MAINTENANCE NOTE 21 (for Electronics Technicians)

Engineering Division

W/OSO321:MGC

Autobalance Module Threshold Resistor (R5)

GENERAL

The autobalance module for the ASOS hygrothermometers (1088 and refurbished 1063 versions) differs from the autobalance module for the station H083 hygrothermometers because of changes early in the ASOS implementation.

The modules differ in the threshold resistor (R5) that determines the sensitivity of the autobalance function to dirt on the mirror. The ASOS system has higher sensitivity to dirt. Impact on ASOS hygrothermometer operation is minimal for the following reasons:

- A. The autobalance module is a low replacement frequency item (all ASOS hygrothermometers are shipped with the correct module).
- B. The effect of an incorrect autobalance in the ASOS system is to lower its sensitivity to dirt on the mirror. Lower sensitivity results in a reduced compensation for dirt. The lower compensation causes known recognizable symptoms that are usually detected by the data quality algorithms. The impact will be less than disconnecting the autobalance module that has been previously done for a significant time.

PROCEDURE

1. The following actions are being taken.

- A. Two different autobalance modules will be stocked: one for the ASOS hygrothermometers (R5 = 200K ohms) and one for the remaining station H083 hygrothermometers (R5 = 249K ohms).
- B. The ASOS hygrothermometer autobalance stock will be maintained as:

ASN: S100-2MT4A1R7
NSN: 6625-01-423-1323
Vendor P/N: 1063-600
R5 resistor: 200K ohms.

2. The following actions are required at each ASOS site:

- A. On the next trip to each site, inspect the resistor R5 for its value. Reference the autobalance printed circuit Figure 1 for location of R5. Use the ASOS Site Technical

Manual (STM), Table 5.5.13 for the autobalance module removal and Figure 1 for location of R5.

- B. The resistor is marked with the resistance value. If marked with 2003xx, the value is a 200K ohm resistor and is correct. If the resistor is positioned so that the resistance value is not visible, use a multi meter to determine the value. A resistance reading close to 200K ohms is correct. A reading closer to 249K ohms is incorrect.
- C. If it is determined that the correct R5 resistor is installed, reinstall the autobalance module following the ASOS STM, Table 5.5.13.
- D. If it is determined that the incorrect R5 resistor is installed, return the autobalance module to NLSC and replace with the correct module as described in the ASOS STM.
- E. Inspect the spares kit and return any autobalance modules found to NLSC. Most kits did not include the autobalance module.
- F. Any ASOS hygrometer exhibiting dew points more than 2° F higher than ambient temperature may have an incorrect autobalance module installed. This is a condition detected by the ASOS data quality algorithms or an inspection of the hygrometer data. Such an occurrence may, based on operational considerations, be cause for a special trip to the site to inspect the autobalance module.

EFFECT ON OTHER INSTRUCTIONS

None.

REPORT MAINTENANCE ACTION

None.

Original Signed

Chief, Engineering Division

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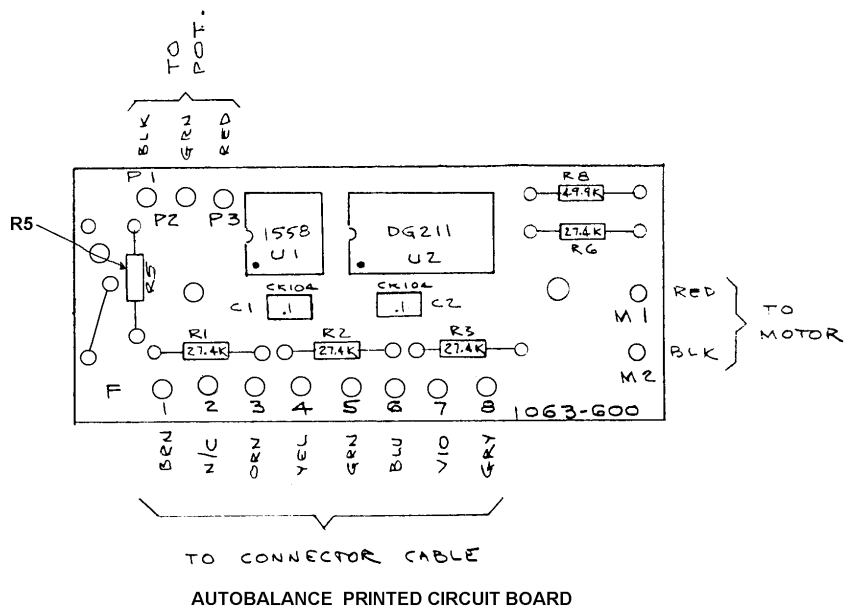


FIGURE 1

